

REMARKS

Claim Amendments

Claims 1 and 13 have been amended to recite that the tubular nanostructure (1) has a layer of at least one pigment (3) directly adsorbed on its outer periphery (2), and at least one polymer (5) having an anchoring point (4) on said layer of at least one pigment (3). The amendments are supported by the original description as filed, notably by page 6, lines 26-29, page 32, lines 21-24, original claim 5, and Figure 1.

Claim 5 has been cancelled without prejudice or disclaimer to the subject matter contained therein.

Claim 19 has been amended to remove an extraneous comma which had been introduced in a prior amendment.

Response to Restriction

In response to the three-way restriction stated in the Office Action, Applicants elect the invention of Group I, as claimed in claims 1 to 12, and 18, drawn to a device. This election is made with traverse for the following reasons:

The present U.S. patent application is a national phase of an international application. Therefore, PCT rules on unity of invention apply to the application.

Applicants submit that Groups I, II and III satisfy the requirement of unity of invention because they are linked by the single general inventive concept of providing an electron donor structure containing at least one type of conjugated polymer, and an electron acceptor structure containing at least one type of a tubular nanostructure.

Furthermore, in view of the present amendments to the claims; the technical feature which is common between Groups I, II, and III is stated more narrowly than the general inventive concept defined by the Examiner.

Group I is directed to a device containing such electron donor and acceptor structure as recited in independent claim 1.

Group II, i.e., claims 13-17, is directed to a process for manufacturing a device as defined in claim 1. Claim 13, which is the main claim in this group, refers to and incorporates the definition of the device of claim 1 and thus shares the technical features of claim 1. In other

words, the process of claim 13 shares the general inventive concept of claim 1, and Group II relates to the general inventive concept of Group I.

Group III, i.e., claims 19-20, is directed to a process for manufacturing electricity using the device of claim 1. Claim 19 refers directly to and incorporates the definition of the device of claim 1. Claim 20, which depends on claim 20, indirectly refers to and incorporates the definition of the device of claim 1, and thus shares the special technical features of claim 1. In other words, the process of claims 19 and 20 shares the general inventive concept of claim 1, and Group III relates to the general inventive concept of Group I.

In summary, Groups I, II, III share the special technical features defined in claim 1, and relate to a single general inventive concept.

The Office Action cites JP 2002-335004A for disclosing the features considered to be the common technical features between Groups I, II and III, so that those features are not considered to define a contribution over the prior art, and do not define a common general inventive concept. On this point, Applicants first note that this prior art reference is cited in the International Search Report for the corresponding international application, and yet the Written Opinion accompanying the International Search Report does not raise the issue of lack of unity. A translation into English of the Written Opinion is submitted herewith.

Furthermore, Applicants submit that, in view of the present amendments, the cited reference JP 2002-335004A art is even less relevant, and does not negate the general inventive concept which is common to Groups I, II and III.

Specifically, JP 2002-335004A discloses the presence of fullerenes as electron acceptors in combination with carbon nanotubes as charge transporters. However, the invention claimed herein relates to carbon nanotubes as electron acceptors, and the concentration of carbon structures should be sufficiently high to assure the role of electron acceptors. In contrast, in JP 2002-335004A the concentration of carbon nanotubes which act as charge transporters is not sufficient for them to act as electron acceptors. Applicants submit that JP 2002-335004A fails to disclose a device comprising carbon nanotubes as electron acceptors.

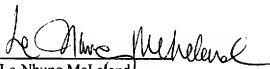
Moreover, JP 2002-335004A fails to disclose an electron acceptor structure containing at least one type of tubular nanostructure having at least one complexed or adsorbed pigment on its surface, as recited in the claims.

It is respectfully requested that the restriction requirement be reconsidered and withdrawn for the reasons stated above.

Extension of Time

A Petition for Extension of Time (for one month) and the petition fee are submitted concurrently with this Response. In the event the response is not considered to be filed timely, Applicants hereby petition for an appropriate further extension of the period for reply. The fee for such further extension may be charged to Deposit Account No. 502081.

Respectfully submitted,
McLELAND PATENT LAW OFFICE, P.L.L.C.

By: 
Le-Nhung McLeLeland
Attorney for Applicants
Reg. No. 31,541

11320 Random Hills Road, Suite 250
Fairfax, VA 22030
Tel: (703) 323-4446; Fax: (703) 323-8188

Enclosures: Petition for Extension of Time
Translation of Written Opinion